RECOMMENDED PROBLEM FORMAT FOR ELECTRICAL ENGINEERING

Engineers solve problems, lots of problems, and the proper presentation of those solutions is central to the engineer's work. Your homework is, for the most part, solving problems and is central to your educational work. Establishing a good format to display your solutions will help you now and the rest of your career. Below is the recommended engineering format to be used with homework.

1. STATE THE PROBLEM: WHAT IS GIVEN, WHAT IS TO BE FOUND AND WHAT IS ASSUMED.
2. USE A DIAGRAM WHENEVER POSSIBLE TO SUPPORT THE STATEMENT.
3. SUMMARIZE THE APPROACH AND REFERENCE RELEVANT WORK.
4. SHOW THE SOLUTION IN UNDERSTANDABLE STEPS.
   - 4.1 SHOW ALL UNITS, IF APPROPRIATE.
   - 4.2 SHOW PERTINENT CALCULATIONS.
   - 4.3 USE SIDE BOXES FOR SCRIBBLING AND CHECKING OF INTERMEDIATE CALCULATIONS.
     - 4.3.1 DO DIMENSIONAL CHECKS AS THE CALCULATIONS PROGRESS.
5. UNDERLINE INTERMEDIATE ANSWERS.
6. DOUBLE UNDERLINE THE FINAL ANSWERS.
7. CHECK DIMENSIONS AND IF THE ANSWER IS REASONABLE.
8. START ANOTHER PROBLEM ON THE SAME PAGE IF IT CAN BE COMPLETED ON SAME PAGE.

Presenting the results in this format will require you often to do a rough draft and then a final copy until your thinking follows the format. In the end, you (and the instructor) will be able to more readily find difficulties and errors in the solutions, and develop an intuition for your work. A sample is given below.